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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/476,358	01/03/2000	PAUL SMITH	PM-265540	7714
909	7590	02/17/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			PARKER, KENNETH	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2871	

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/476,358

Applicant(s)

SMITH ET AL.

Examiner

Kenneth A Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 33-55 and 57-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-47, 50-55 and 57-64 is/are rejected.
- 7) ☒ Claim(s) 48 and 49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(f) he did not himself invent the subject matter sought to be patented.

**Claims 33 -35, 37- 46, 50, 53, 57, 59-64 rejected under 35 U.S.C. 102(f)  
because the applicant did not invent the claimed subject matter.**

The reference Weder "Incorporation of photoluminescent polarizers into liquid crystal displays" has a different inventorship in that Andrea Montali is also listed.

**Claims 33 -35, 37- 46, 50, 53, 57, 59-64 are rejected under 35 U.S.C. 102(a)  
as being clearly anticipated by Weder "Incorporation of photoluminescent  
polarizers into liquid crystal displays".**

The Weder reference shows a material which is dichroic in its absorption and emission (see page 1, end of column 1- page 2). A layer thickness of 2um thickness is disclosed (3<sup>rd</sup> column, near top). The polymer is a conjugated polymer ( 3<sup>rd</sup> column, middle, see the chemical structure, the benzene ring with alternating double bonds). A absorption dichroic ration of 15 and emissive of 22 is disclosed (column 3). Use in LCD

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stacked structures as claimed (fig 2, top and bottom embodiments are the two claimed structures). Improvement of brightness and viewing angle is disclosed ( page 3, column 1, top of page). The spectrums is in that of the light source (in description of fig 2). Therefore, these claims are anticipated by Weder.

***Claim Rejections - 35 USC § 103***

**Claims 33-35, 37- 46, 50, 53, 57, 59-64, 36, 47, 51-52, 55, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over as being clearly anticipated by Clausen et al 5122557.**

Clausen discloses materials as claimed and indicates liquid crystal devices as an application for their polarizer, but does not indicate the dichroic ratios. As the dichroic ratios were well known as the primary thing to optimize for polarizers, one of ordinary skill would have known to maximize the dichroic ratio as is was the definition of functioning of a polarizer.

The claimed locations in respect were conventionally done, as they were conventionally placed on both sides of the liquid crystal cell. See the applicant's admitted prior art, pages 1-3. Still lacking is the high brightness, contrast or viewing angle. These were the well known properties that were optimized, and would have been obvious to one of ordinary skill for those reasons.

Regarding claim 36, using an electrically switchable light valve was conventional, as substantially all LCD displays used were electronically, which therefore would have

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been obvious to one of ordinary skill for the benefits associated with using conventional equipment.

Regarding claim 47, the reference discusses dichroic ratio as something to maximize (is the focus of the article) for the viewing property benefits. Therefore having a higher dichroic ratio would have been obvious to one of ordinary skill.

Regarding claims 51-52, the use of multiple displays was well known for enabling the viewing of more information (two displays were well known to be better than one), and would therefore have been obvious to one of ordinary skill for that reason.

55 – The product by process includes “obtainable by” or equivalent language, thereby clearly not defining over the prior art. Please keep in mind that a product by process limitation imparts patentability only in so far as it defines a materially different invention, and this does not and therefore does not impart patentability to the claim.

Regarding claim 58 brightness and viewing angle were- goals of the liquid crystal art, and mentioned in the reference, and therefore obvious to one of ordinary skill to make as large as possible.

**Claims 36, 47, 51-52, 55, 58, are rejected under 35 U.S.C. 103(a) as being unpatentable over Weder “Incorporation of photoluminescent polarizers into liquid crystal displays”.**

Regarding claim 36, using an electrically switchable light valve was conventional, as substantially all LCD displays used were electronically, which therefore would have

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been obvious to one of ordinary skill for the benefits associated with using conventional equipment.

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Regarding claim 58 brightness and viewing angle were- goals of the liquid crystal art, and mentioned in the reference, and therefore obvious to one of ordinary skill to make as large as possible.

**Claims 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weder “Incorporation of photoluminescent polarizers into liquid crystal displays” in view of Vriens 4822144.**

Lacking from the disclosure is the dichroic mirror. Vriens, in a device that uses photoluminescent to enhance a display, teaches in using a UV dichroic mirror for

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brightening the display, which would have been obvious to one of ordinary skill for that reason.

**Claims 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clausen et al 5122557 in view of Vriens.**

Lacking from the disclosure is the dichroic mirror. Vriens, in a device that uses photoluminescent to enhance a display, teaches in using a UV dichroic mirror for brightening the display, which would have been obvious to one of ordinary skill for that reason.

***Allowable Subject Matter***

The rejections applied can be overcome with an appropriate affidavit submitting indicating that applicant is the inventor of the claimed subject matter (applicant's own work) if appropriate, and by amending appropriately to clarify what the function of the layer is in respect to the claimed device. Applicant may contact the examiner to discuss potential amendments to this end.

**Claims 48-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

### ***Response to Arguments***

Applicant's arguments filed have been fully considered but they are not persuasive. The priority document is not in the record, and therefore cannot be reviewed to verify that the written description requirement has been met (the previous office action indicated that it was received, but that appears to be in error. For a rejection under 102(f), the rejection is not overcome by the originally filed oath, but an affidavit that shows that the portion of the reference that was relied upon was the work only of the inventors. Regarding the rejections under 103, applicant argued that the invention was not obvious in view of difficulties in creating the claimed dichroic ratio. This is not persuasive, as the reference explicitly shows a dichroic ratio of over 14, and applicants specification lists many methods of the prior art as ways of making the invention, showing that the prior art had methods of accomplishing the goal of providing a high orientation which would have enabled a high dichroic ration.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



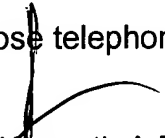
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Kenneth A Parker  
Primary Examiner  
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